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Philosophical and Literary Society.

THE 95TH ANNUAL REPORT

For 1914-15.

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THE

NINETY-FIFTH REPORT

OF

THE COUNCIL

OF THE

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY,

AT THE CLOSE OF THE SESSION 1914-1915.

READ AT THE ANNUAL MEETING, MAY 11th, 1915.

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THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY consists of the following Classes of Members and Subscribers:—

(1.) ORIGINAL PROPRIETARY MEMBERS (holding £100 Shares), who are entitled to personal admission to the Museum, Library, Lectures, and all other Meetings of the Society, and to two transferable tickets to admit visitors to the Lectures. They are exempt from Annual Subscription.

(2.) NEW PROPRIETARY MEMBERS (holding £50 Shares), who are entitled to similar personal privileges, and to two transferable tickets. Subscription, £1 1s. per annum.

(3.) ORIGINAL ORDINARY MEMBERS (holding £3 3s. Shares), who are entitled to similar personal privileges, and to one transferable ticket. Subscription, £2 2s. per annum.

(4.) NEW ORDINARY MEMBERS (holding £20 Shares), who are entitled to similar personal privileges, and to one transferable ticket. Subscription, £1 1s. per annum.

The following are entitled to personal admission to the Museum, Library, and Lectures, but not to business meetings; nor have they any transferable tickets to admit visitors:—

(5.) HONORARY MEMBERS, elected on the recommendation of the Council.

(6.) SUBSCRIBERS of £1 1s. per annum.

(7.) SUBSCRIBERS of 7s. 6d. per annum, being Ladies or Young Persons resident with Members, or with Subscribers in Class (6).

A list of shares offered for sale is kept in the office, and information as to price, &c., may be obtained from the Curator.

Shareholders must be duly admitted as Members of the Society before they can vote or attend Meetings.

All Subscriptions are due in advance.

No one can vote or attend Meetings whose Subscription is in arrears (see Rule 5).

REPORT OF THE COUNCIL

Read at the Annual Meeting 11th May, 1915,

AT THE END OF THE

NINETY-FIFTH SESSION, 1914-15.

The thanks of the Society are due to the President (Rev. W. H. Draper), Dr. H. A. L. Fisher, Professor C. M. Gillespie, Dr. R. T. Glazebrook, Professor Kendall, Rev. R. H. Malden, Mr. J. R. Mozley, Professor Newbolt, Mr. Raymond Priestley, Mr. C. T. Whitmell for lectures delivered before the members; and to Lt.-Col. E. Kitson Clark, Mr. Edgar Lupton, and Professor Moorman for Saturday Evening lectures delivered to the members and the general public. Lt.-Col. E. A. Hirst was unable to lecture owing to military duties.

The list of Lectures is as follows:—

1.—"Sir Walter Scott as Historian." By H. A. L. Fisher, LL.D., F.B.A. *Oct. 13th, 1914.*

2.—"The Poetry of Patriotism." By J. R. Mozley, M.A. *Nov. 3rd, 1914.*

3.—"Futurism and Form in Poetry." By Henry Newbolt, D.Litt. *Nov. 10th, 1914.*

4.—"The Moon as a View-point." By C. T. Whitmell, M.A., B.Sc., F.R.A.S. *Nov. 17th, 1914.*

5.—"Chateaux of the Loire." By Louis Ambler, F.R.I.B.A. *Dec. 1st, 1914.*

6.—"The Doctrine that Might is Right, and the idea of the Superman." By C. M. Gillespie, M.A. *Dec. 15th, 1914.*

7.—"Utopias, Ancient and Modern." By the President (Rev. W. H. Draper, M.A.). *Jan. 12th, 1915.*

8.—"Recent Discoveries on Primitive Man." By P. F. Kendall, M.Sc., F.G.S. *Jan. 26th, 1915.*

9.—"The Development of the Aeroplane." By R. T. Glazebrook, C.B., D.Sc., F.R.S. *Feb. 2nd, 1915.*

10.—"With Captain Scott in the Antarctic." By Raymond Priestley. *Feb. 16th, 1915.*

11.—"Monastic Life." Rev. R. H. Malden, M.A. *Mar. 2nd, 1915.*

Professor Kendall willingly undertook, at short notice, to deliver a lecture in place of Captain P. W. Dodd, who, being embodied with the 2/6 W. Yorks. Regiment, was unable to be present on the date fixed for his lecture.

By a conjoint arrangement with the Leeds Geological Society the lecture by Mr. Raymond Priestley was delivered before the members of the Society and those of the Leeds Geological Society and its friends.

The Council had again the pleasure of accepting the offer by Professor Garstang of a series of three evening lectures, free to the members on "The Story of Sea Mammals." The lectures were much appreciated. Lantern slides and objects from the museum were used to illustrate the lectures.

The following is the list of the lectures:—

1.—"The Sea-Lion, Walrus and Seal." *Nov. 6th, 1914.*

2.—"The Manatee and Dugong." *Nov. 13th, 1914.*

3.—"The Porpoise, Narwhal and Whale." *Nov. 20th, 1914.*

The Members and Subscribers are comprised in the following classes:—

	1914.	1915.
Original Proprietary Members (Shares 78) ...	54	56
New Proprietary Members (Shares 65)... ...	59	55
New Ordinary Members (Shares 35)	32	33
Annual Subscribers of 21s.	68	60
Annual Subscribers of 7s. 6d.	78	66
	291	270

The Society has lost by death Mr. William Hancock, F.L.S., F.R.G.S., one of its Honorary Members.

Mr. Hancock was a fearless explorer, a keen observer, and a skilled botanist. He was the first European to explore the Highlands of Formosa, inhabited by aborigines, and to make a scientific study of its flora, resulting in the acquisition of a valuable collection of new plants which he presented to Kew. One genus and nineteen species of plants have been named after Mr. Hancock.

In the mountain regions of North China Mr. Hancock was also a pioneer and verified specifically the prediction made by the famous Russian botanist, Maximovitz, as to their probable flora. He also travelled in Central America, Mexico, the Sandwich Islands, the East Indies and Japan, and made many researches on the phenomena of volcanic upheavals and visited most of the important craters of the world. It is to be regretted that the only published account of Mr. Hancock's experiences is a lengthy paragraph in Bretschneider, "History of European Botanical Discoveries in China."

The following lectures were delivered to the members of the Society by Mr. Hancock: "Formosa; its geology, flora, fauna and aborigines," in 1891, "Travels in Guatemala, Salvador and Nicaragua" in 1899. He was elected an Honorary Member in 1892.

During the year the Society has lost by death Colonel Wilson and the Rev. J. H. D. Matthews, M.A., two former Presidents of the Society.

The late Col. Edmund Wilson joined the Society in 1876, his father Mr. Thomas Wilson, being at one time one of its Hon. Secretaries. In 1887 Col. Wilson was elected a member of the Council, and in 1896-7 and in 1897-8, as President of the Society. During his period of office as President his legal help to the Council was of special value, he was also the Hon. Registrar of the Society.

Col. Wilson read two papers before the Members, one on "Slums" in 1894 and another on "Jersey" in 1896.

Col. Wilson's paper on "Slums" was one of the factors which powerfully influenced public opinion on the dangers to the community of Leeds of much insanitary property in their midst, much of which has since been cleared away.

Col. Wilson was one of the founders and the first President of the Thoresby Society. The citizens of Leeds should ever hold him in grateful remembrance for the part he played in securing the transference of Kirkstall Abbey to the citizens of Leeds by Col. North. He had a lifelong and vivid interest in matters of archæological importance.

The late Rev. J. H. D. Matthews died from drowning as the result of a boat accident on the Thames when returning from Mapledurham Church to Purley, after taking evening service for a friend.

Mr. Matthews succeeded Dr. Henderson as Headmaster of the Leeds Grammar School in 1884, and in the following year he joined the Society and was elected a member of the Council in 1886, and President of the Society in 1892-3 and 1893-4. He read, as his Presidential Address, a paper on "Style," and in 1889 introduced a discussion on "The Best Method of Teaching a Modern Language."

Mr. Matthews showed in a marked degree his interest in the Society, he was most regular in his attendances at its meetings and always gave valuable assistance in compiling the lecture lists.

On the invitation of the Council four of the Heads of Departments of the Leeds Corporation undertook to deliver a course of lectures on "The Municipal Undertakings of the Leeds Corporation." A small charge for admission was made to the general public to cover incidental expenses and advertising. The lectures were well attended and aroused considerable interest. The thanks of the Society are due to Mr. C. G. Henzell, Mr. G. A Hart, Mr. W. T. Lancashire, and Dr. Angus for their voluntary help, and also for the elaborate demonstration of their subjects by exhibits of objects and displays of diagrams and lantern illustrations. Dr. Angus undertook, at short notice, to lecture in place Dr. Cameron, who had been overtaken by illness after his promise to lecture.

The thanks of the Society are due to Mr. J. E. Bedford, the Lord Mayor, for his interest in arranging by personal invitation the series of lectures.

The following is the list of lectures :—

C. G. Henzell, Waterworks Engineer. "Water Supply." *Feb. 5th, 1915.*

G. A. Hart, Sewerage Engineer. "Sewage Disposal." *Feb. 12th.*

W. T. Lancashire, City Engineer. "Town Planning." *Feb. 19th.*

Dr. W. Angus, Pro-Medical Officer of Health. "Public Health." *Feb. 26th.*

Towards the end of the Session the President and Council made arrangements for three Discussions on "Some of the Philosophical Aspects of Religion." Unfortunately, the last of the Discussions had to be postponed, as Baron Friedrich von Hügel, who was to have introduced the subject of "The Present-Day Weakening of the Sense of Sin; its Causes, Importance, and Remedies," had been detained in Rome by the illness of his daughter. At each of the Discussions there were three invited speakers, one of whom, by a special paper, introduced the subject and was followed by the two other speakers who gave their views from their own standpoints. The meeting was then declared open for discussion by members and their friends.

The President acted as chairman and closed each discussion with a general survey of the subject before the meeting. The attendances were excellent and the discussions evoked much interest. Admission was limited to members of the Society and their friends.

The following are the titles of the Discussions:—

"The Conception of Power in Relation to the 'Will to Power.'" Introduced by the Rev. Wilfrid J. Moulton, M.A., Tutor at Headingley College. Followed by C. M. Gillespie, M.A,, Professor of Philosophy in the University of Leeds, and the Rev. R. H. Malden, M.A., Principal of the Clergy School. *March 16th, 1915.*

"The Church and the Nations." Introduced by the Rev. F. T. Woods, M.A., Vicar of Bradford. Followed by the Rev. S. Bickersteth, D.D., Vicar of Leeds, and W. H. Bragg, D.Sc., Professor of Physics in the University of Leeds. *March 23rd.*

The Saturday Evening Lectures were well attended. The following is a list of the lectures:—

"Prehistoric Yorkshire." Lt.-Col. E. Kitson Clark, M.A. *Nov. 7th, 1914.*

"Broad Yorkshire." Professor Moorman, B.A. *Nov. 21st, 1914.*

"A Five-weeks' Trip in Spain and Morocco." Edgar Lupton. *Dec. 5th, 1914.*

Total number of Visitors:—773; 1913-14, six lectures, 890.

The Curator gave his usual series of "Christmas Museum Lectures," which attracted large audiences, the general title being "The Leeds River." The subjects were:—

"From the Craven Highlands—Malham to Leeds." *Dec. 30th, 1914.*

"The Tributaries of the Aire." *Jan. 6th, 1915.*

"Leeds to junction of Aire and Ouse, Airmyn, near Goole." *Jan. 13th, 1915.*

Total number of Visitors:—877; 1913-14, 744.

The Senior Honorary Secretary, Lt.-Col. E. Kitson Clark, has been absent from the ordinary meetings of the Society this year owing to his military duties.

By permission he was able to fulfil his promise to deliver the first of the Saturday Evening lectures to the public.

To his great regret, a serious accident in the autumn, during his Command of the 8th Battalion West Yorkshire Regiment at York, prevented him from proceeding to the front with his battalion, but, when sufficiently recovered from his injury, he was appointed to command in France the overseas Base Depôt, of the 1st line, 1st West Riding Division, T.F.

The Council and Members cordially wish Col. Clark success in his command and a safe return to Leeds at the end of the war.

Mr. J. E. Bedford, a member of the Council, has undertaken the honorable duties of Chief Magistrate of the City, and the Society appreciates through him the honour which has been conferred upon it by his election, by the City Council, as Lord Mayor of Leeds. The Council recognises the arduous duties of the office of Lord Mayor this year, in which he is not only called upon to preside over the administration of the City's affairs but over many meetings and deliberations on matters of urgent national importance. During his year of office the Lord Mayor has been generous in his help to the Society, and has also freely given time for its benefit.

There has been a continuous membership of the Society by Mr. Bedford's family since 1823.

There is a considerable decrease in the number of visitors to the Museum, the number for 1914-15 being 15,612; for 1913-14, 18,164, the mean of the last ten years being 17,302. The above numbers do not include those visits made by the School Children under the "Leeds Schools' Museum Scheme."

Mr. Alec. Wormald, the Secretary of the Leeds Schools' Museum Scheme, has furnished the following report:—

"On Friday, September 25th, 1914, Mr. H. Crowther gave to the Teachers of the Leeds Schools, an outline lecture on "The Farm," the subject chosen by the Leeds Schools' Museum Scheme Committee for the Fourteenth Session of the Scheme.

Alderman W. H. Clarke, Chairman of the Leeds Education Committee, was prevented from acting as chairman by illness and absence from town. In a letter read to the gathering he expressed his high appreciation of Mr. Crowther's efforts on behalf of the children of Leeds and gave the scheme his official support.

Mr. P. L. Gray, H.M.I.S., occupied the chair, and was supported by Mr. C. T. Whitmell, ex-H.M.I.S (representing the Leeds Philosophical and Literary Society), and Mr. R. H. Brown, of the Philosophical Society, Messrs. J. Petty and J. H. Webster, Inspectors of the Leeds Education Committee, and the Officers and Members of the L.S.M.S. Committee. The Chairman on behalf of the Board of Education heartily welcomed the continuation of the scheme, which Mr. Whitmell, on behalf of the Philosophical Society, supported.

The first lecture to the children was delivered on Monday, September 28th, Mr. Alf. Blenkinsop being the Supervisor.

Up to date, 58 lectures have been given and 13,600 children in charge of 340 teachers and drawn from 139 departments have attended.

Six more lectures have yet to be given to 2,400 children.

The reports from the Supervisors invariably speak in the highest praise of the Lecture, the beautiful slides and the large and varied collection of objects gathered by Mr. Crowther to illustrate the subject.

The children and teachers unite with the Committee in again thanking Mr. Crowther and Miss Crowther for their continued interest in the welfare of the Scheme. To Mr. R. H. Brown their thanks are also tendered for the trouble he has taken to obtain many of the objects used to illustrate the lecture. The Education Committee

has again shown its acknowledgment of Mr. Crowther's work by continuing the "extra grant" made last session.

The visit of the children from the Special Schools was such a success last year that the experiment is being repeated.

Many of the children of the Belgian Refugees have attended the lectures, and a special lecture has also been given them.

The Council regrets to record that owing to continued serious illness Mr. Aquila Dodgson has not this year presented a report of his personal work on the Numismatic Collections of the Museum. These reports have been for fourteen years a special feature of the Annual Report, for not only have the collections grown by generous gifts during this period but the influence of Mr. Dodgson has been such that thousands of coins, tokens, and medals have been submitted to him for decipherment. He had also embodied in his reports interesting notices and tabulations of coins that have been presented.

The following are some of the additions, during the year, to the Numismatic collections:—

York token, 1669. Mr. G. D. Lumb, Leeds.

Three medals of the Royal visit to Hull, June 14th, 1914, Medal of the Lord Mayor of Leeds, Mr. E. A. Brotherton, and Badge of Special Constable, Leeds, 1915. Mr. Wm. Owen, Leeds.

Bronze medal of John Hunter, struck in commemoration of the Union of the Leeds Medical School and the Yorkshire College, August 1st, 1884, and presented to each lecturer at the School of Medicine. The die from which it was struck, was designed in the thirties by Wyon, to provide silver and bronze medals as prizes at the Medical School. Dr. T. Pridgin Teale, Headingley.

Bronze Coronation medal, George V. Mr. Alec. Wormald, Headingley.

The Council gratefully acknowledges the following gifts:—

By Mr. J. H. R. Bazley, Holbeck, a very valuable series of nine cases of the Freshwater Fishes of Yorkshire, mounted and displayed in the highest art of taxidermy, set up by Messrs. John Cooper & Sons, London.

From Mr. H. Heaton, Roundhay, an exceedingly fine specimen of an Albatross, with a stretch of wings 11 feet from tip to tip, set up by Messrs. Lawrence & Co., Leeds.

By Mr. Frank Somers, Chapeltown, specimens in excellent condition of the Hairy Armadillo and of the Indris, one of the Lemurs, in the flesh.

By Lieut.-Col. J. W. Stead, Leeds, a large number of small South American birds, including humming, scissor, and sugar birds, manakins, some of the types being rare.

By Mrs. A. P. Longstaffe, Headingley, of ethnological objects, and a number of heads of deer, wild boar and other animals shot by her son in India and Canada, and which are mounted on shields of wood.

By the Trustees of the British Museum, a valuable series of flint implements from the bequest of Richard Jones, formerly of Welling, Kent, consisting of palæoliths from Swanscombe, Kent, of the types found in the middle-gravel of the 100-ft. terrace of the Thames (Archæologia LXIV., 177). A series of surface specimens from Swanscombe, including scrapers not necessarily of neolithic date, and in some cases like cave period specimens in France, and other specimens including a Thames (or Campigny) pick regarded usually as earliest neolithic.

A further valuable series of flints from Northfleet selected from specimens handed over to the British Museum for distribution to provincial museums by the Associated Portland Cement Manufacturers, Ltd. The Northfleet flints were found in thousands associated in a chalky deposit, identified as Coombe Rock, with the recognised mammoth fauna, on a level corresponding to the middle or 50-ft. terrace of the Thames. The "industry" is assigned on various grounds to the period of Le Moustier (earliest stage of the palæolithic Cave-period); and the type series comprises typical implements which were the output of this factory. This kind of implement is a simplification of the ovate palæolith of St. Acheul type. Described in Archæologia LXII., 515.

A very valuable series of 110 flint and bone implements from the French Cave deposits by Sir Hercules Read, London. The specimens from Le Moustier Cavern, Dordogne, include flakes, Moustier point and side scraper (racloir). River Vézère, Dordogne

(Cave-district), combined graver (burin) and end-scraper (grattoir), probably Mid-cave period. Les Eyzies Cavern, Dordogne, flakes, mostly transition from Solutré to La Madeleine period; and specimen of the breccia forming floor of Cavern. Langerie Haute rock-shelter, part of laurel-leaf blade, early Solutré date. La Madeleine rock-shelter, Dordogne, fragments of bone harpoons and needle, flint flakes, gravers, scrapers. Bruniquel (Montastruc rock-shelter) Tarn-et-Garonne of the La Madeleine period, core, gravers and small flakes from a workshop floor.

The Society owes its thanks to Mr. Reginald A. Smith, of the British Museum, for his help in describing the specimens and his interest in the Department of Prehistoric Objects in the Society's Museum.

In response to an appeal made by Professor Kendall, when President last year, for funds for the prosecution of the explorations of the underground workings at Grime's Graves, Norfolk, by the Prehistoric Society of East Anglia, several members of the Council generously subscribed to a "President's Fund" for that purpose, and a hope was expressed by them that the Society's Museum might benefit by such explorations.

As a result, a series of 42 objects of prehistoric interest, chiefly worked flints, 6 miners' picks made of the antlers of red deer, and a series of the shells of 20 species of land snails and a slug found in the workings, have been added to the Museum collections.

Mr. W. J. Clarke, the Hon. Secretary of the Prehistoric Society, has kindly contributed the following:—

"The Prehistoric Flint-Mines, Grime's Graves, Weeting, Norfolk, consist of about 400 filled-in shafts originally sunk to a depth of from 30 to 40 feet, chiefly in chalk, in search of a fine layer of flint known as floorstone. When this was reached it was followed up by means of low galleries, of which there is an intricate network beneath the whole area. Two of these shafts were opened by the "Prehistoric Society of East Anglia" in 1914, and about 220 miners' picks made from antlers of the red

deer, with the crown, tres and bez tines removed and the brow tine left, were found. Marks made by these picks were frequent in the chalk of the galleries.

Above the entrances of some of the galleries and on the sides of the shafts, were pieces of chalk rubbed smooth by thongs which were probably used for raising the flint to the surface. There were signs that during the process of filling in the shafts man lived in the sheltered hollow. Flint implements, generically of "Cissbury type" but with local peculiarities, were made by the miners and the area of the graves is strewn with chips and flakes, in places solidly packed to a depth of several feet."

By Mr. W. R. Plowes, Chapeltown, a number of finely preserved specimens of Corals, Shells, Terra-cotta Lamps from Egypt and Carthage; Bronze Vase, Smyrna, and minerals. The gifts of small objects made by Mr. Plowes last year and this are useful additions to the Museum.

From the Lord Mayor (Mr. J. E. Bedford) a fine series of Graptolites and Trilobites chiefly from the Ordovician of Llandilo. The specimens are 27 in number and are very finely preserved, and are a valued addition to the Museum. Also a framed Coloured Print by F. Vivares of Kirkstall Abbey, 1769.

From Mr. Edwin Hawkesworth, who has for some years made special gifts of geological objects to the Museum, there have been received many specimens from the East Coast of Yorkshire of varied and interesting types of fossils; and, also, of two series of fossils from the Yorkshire Coal-field of special interest. One is from a marine band in the Coal Measures, about 220 feet above the Melton Field Coal Seam, passed through in making the new Colliery at Bentley. The other of specimens of Anthracomya Phillipsii from practically the only section of Upper Coal Measures in Yorkshire exposed in making new railway cutting near Cadeby.

From Rev. C. Hargrove, three stone Celts, probably recently fabricated by the natives of Mount Stirling, Australia.

By Mr. T. A. Carpenter, Ilkley, two book-cabinets of microscopical slides of material from the deep sea dredgings of the

Lightning, Porcupine and other ships, together with a Binocular Microscope, two objectives, eye-pieces, polariscope, spot lens, lamp and condensers, formerly the property of his father, Dr. W. B. Carpenter, F.R.S.

From Mrs. Legge, Headingley, a small series of Australian bird skins.

By Mr. H. Lawton, Chapeltown, a well-preserved and fine example of an otter in glass case.

By Mr. J. H. Rontree, Garforth, a small collection of selected examples of Carboniferous Fossils chiefly from the Barnsley Coalfield. Several of the examples are new to the Society's collections.

By W. H. Bartholomew, a number of coal fossil plants, chiefly *Neuropteris*, from Notton, near Wakefield, and a model yacht.

By the Trades' Commissioners, London, on behalf of the Union of South Africa, The Canadian Government, The Commonwealth of Australia, Department of Agriculture, U.S.A, Agent General West Australia, the Imperial Institute, Messrs. Sutton and Sons, Reading; Messrs. J. Bibby & Son, Liverpool; Messrs. George Hadfield and Co., Liverpool; Messrs. W. E. Kenworthy and Son, Leeds; Messrs. H. Richardson & Co., York; Messrs. Lancelot Foster & Sons, York, objects to illustrate the Schools' Museum lecture on "The Farm."

By Mrs. Oates, Castle Hedingham, through the kindness of Mr. Basil Lupton, a framed portrait of the Rev. Thomas Hincks, B.A., F.R.S., President of the Society 1863-4, '64-5, '65-6.

By Mr. R. H. Brown, a suit of Livery for the Porter. The Council owes its thanks to Mr. Brown for spontaneous and generous help in many matters which pertain to the welfare of the Museum. For the acquisition of the special material needed to illustrate the Schools' Museum lecture on "The Farm," Mr. Brown undertook all the correspondence from his own office and at no cost, in either postage or typewriting, to the Society, got together the valuable material from which the extensive exhibits for this lecture were made in the Museum.

The collection of "Bygones" in the Museum has been increased by valued gifts of interesting objects: from Mrs. S. Scott

Stanley, Roundhay, a pair of household sugar-nippers; Mrs. Chapman, Chapeltown, a pair of hand sugar-nippers. From the Lord Mayor of Leeds (Mr. J. E. Bedford), a caltrop and a pair of wooden nutcrackers; Mr. William Owen, Leeds, two aventurine bracelets, and a silk purse with silver work; Miss Dunn, Ponsonby, an embroidered purse; Mr. W. R. Plowes, Chapeltown, two pairs of steel snuffers; Mr. Thomas Pickersgill, Leeds, a snuffer tray and several old keys; Mrs. A. Maud Maud, Stanningley, an engraved horn drinking cup.

The thanks of the Society are especially due to Mrs. F. H. Woods, Bainton, Driffield, for a gift to the Museum of a collection of British Marine Shells, made by her late husband, the Rev. F. H. Woods, Rector of Bainton. Mr. Woods was a specialist in the shells of the minute British Marine Mollusca and particularly in the microscopic differences in their growth. He spent three days examining the minute Marine Shells of the Rowe and Hebden Collections in the Museum with a view of supplying, where possible, from his own specimens, desiderata for the Society's collections. The Council regret to record that Mr. Woods has since then died at Bainton. Mrs. Woods has, also, presented a collection of six hundred British and Continental plants, excellently preserved and displayed, which was made by the late Mr. Woods.

The Lord Mayor of Leeds (Mr. J. E. Bedford), has lent a case containing a collection of Books which illustrate the early art of Printing and Binding; another case containing a working compound Condensing Engine, and a case with a working model, to scale, of a Locomotive used on the Great Central Railway. The exhibits have excited considerable interest, and are displayed in the Outer and Inner Vestibules. Other objects lent by the Lord Mayor are displayed in the Inner Vestibule Cases.

The preparation of Exhibits for the Lecture on "The Farm" given to school children has occupied considerable time and the exercise of much ingenuity. Forty special cases which receive one hour's attention of each child and its teacher are prepared each year to illustrate the Lecture given by the Curator in the Lecture

Theatre. This year the nature of the material necessitated the putting of seeds into glazed cardboard boxes or special glass vessels so that when so arranged they could be suspended for inspection in large cases during the visits of the children. In some of the cases as many as 36 kinds of objects are shown in boxes, the contents of each box being specifically named.

The cases of exhibits include "Products of a South African Farm," "Products of a Rhodesian Farm," "Cereals of Canadian Farms," five cases; "Cereals and Seeds of American Farms," "British Colonial Products," "An English Farm Yard," "Farm of Palestine," objects lent by the Rev. N. Bergheim, Swillington, "Products of Western Australia," "Sugar Cane and its products," "Cereals of the Farm," "Grasses of the Farm," "Seeds used on the Farm," "Oils and Cattle Foods," "Fertilisers," "Injurious Insects," "Germination of Cereals."

Arrangement of the Museum:—

Several special cases of exhibits have been added to the Museum. A wall case in the South Geological Room has in it a display of the exterior parts of timber trees and cross sections of the same, and specimens of seedlings mounted in a weak solution of formalin. Three other cases near these have sections of timber. In the North Geological Room, in two cases, are displayed cones and sections of Coniferous trees. On the passage approaching this room a glazed wall case permits of the display of a series of models of Fungi.

Owing to the generous gifts of Flint Implements by the British Museum, two new cases have been attached to the older ones and these cases, though narrow, have permitted the display of the objects in chronological order with the rest of the collections. The gift by Sir Hercules Read was incorporated amongst the rest of the French Cave deposits.

The valued gift by certain members of the Council of objects from Grime's Graves has been displayed in one case on the landing of the Staircase. The objects have had their localities painted on them. Perhaps no section of the Museum has grown so much during the last two years as that which includes the stone and bronze implements.

A marked interest has been shewn in the collection of articles of domestic use of interest owing to their age, and so many additions have been made to it, that a large wall case has been erected in the Inner Vestibule for their display.

The Corals have been arranged and the large specimens of Neptune's Sponges are now displayed in a separate case in the large Zoological Room.

The valued gift of several cases of the Freshwater Fishes of Yorkshire has been displayed in the Fish Gallery, and Mr. J. H .R. Bazley intends in the near future to add other cases to it.

The marked increase of gifts is a sign of greater local appreciation.

Owing to the war there has been a decrease in the number of Members and Subscribers, chiefly of Members who have left Leeds to reside in London or in the country, and of 7s. 6d. Subscribers, chiefly teachers.

There has also been a decrease in the lettings of the Hall and of admissions to the Museum. At the same time the activity of the Society and of the Museum have in no recent year been greater. The Council issued a syllabus of 26 lectures, and of three discussion evenings, an innovation by the President. The attendances at the lectures were better than those of last year.

The temporary use of the office part of the Basement of the Hall, which is at present unlet, has been granted to Mrs. Kitson Clark for providing necessaries for the 8th Battalion W. Y. R., and for other objects connected with men serving in the war.

The City Council has increased its grant to the Schools' Museum scheme, so that under the guidance of their Teachers, the Museum has this year been visited by 1,000 children more than was the case last year.

As in past years special students have been welcomed and helped in their work; in many cases free admissions being granted.

No further communication has yet been received from the Town Clerk in relation to a joint arrangement in the interests of the Public and of the Society, as suggested in a letter from him dated April 13th, 1905.

SUNSHINE AT LEEDS IN 1914.

The observations recorded below were made by Jordan's Photographic Sunshine Recorder at the following stations in Leeds:—

1. The Museum of the Philosophical and Literary Society, situate in the centre of the city; elevation above the sea, 131 feet. Recorder—Mr. HENRY CROWTHER, Curator.
2. Lawnswood Cemetery, Adel, 4 miles N.W. from the centre of the city; elevation, 475 feet; on the fringe of the city. Recorder—Mr. S. R. DYSON.

The Monthly Summary of sunshine is appended:—

Months.	Stations.	Hours of sunshine registered.	Percentage of possible Duration.
JANUARY	1	10.20	4.25
	2	12.15	5.08
FEBRUARY	1	58.45	27.00
	2	68.55	25.80
MARCH	1	84.10	23.11
	2	103.15	28.36
APRIL	1	200.00	48.30
	2	222.15	53.60
MAY	1	130.30	26.52
	2	160.10	32.55
JUNE	1	182.50	36.10
	2	192.00	37.94
JULY	1	130.55	25.87
	2	139.25	27.55
AUGUST	1	141.20	31.05
	2	175.10	38.49
SEPTEMBER	1	152.10	40.10
	2	191.00	51.06
OCTOBER	1	47.20	14.79
	2	77.40	24.27
NOVEMBER	1	25.40	10.30
	2	44.20	17.80
DECEMBER	1	17.20	7.80
	2	32.40	14.70

SUMMARY FOR THE YEAR.

	Hours recorded. H.	M.	Difference from mean of ten years in hours. H.	M.	Percentage of possible duration.
Museum ..	1,206	20	+ 1	10	27.30
Lawnswood ..	1,319	50	− 104	23	29.90

28.6	per cent. mean for	1914.	29.9	per cent. mean for	1909.
27.2	,, ,,	1913.	29.2	,, ,,	1908.
26.7	,, ,,	1912.	28.7	,,	1907.
36.9	,, ,,	1911.	30.3	,,	1906.
31.6	,, ,,	1910.	30.7	,,	1905

Or 29.4 per cent. mean for ten years.

Summary of Meteorological Observations taken at the Philosophical Hall, and at Lawnswood, during the year 1914.

1914.	Mean Height of Barometer (inches).	Mean Temperature of Air (degrees).	Amount of Rainfall.	
			Museum (inches).	Adel (inches).
January	29.99	40.0	1.17	1.60
February...	29.54	45.8	1.37	1.72
March	29.42	44.5	2.05	3.30
April	29.95	53.2	1.06	1.23
May...	29.96	54.4	0.80	0.90
June...	29.98	62.7	1.71	2.05
July	29.77	64.0	3.13	4.00
August	29.91	64.1	1.95	2.32
September	29.96	58.7	1.12	1.70
October	29.90	52.7	2.06	2.56
November	29.75	46.4	3.01	3.46
December	29.40	41.2	5.39	5.55
Yearly Means ...	29.79	52.3	24.82	30.39

EXTREMES FOR THE YEAR 1914.

Greatest Barometric pressure—30.54 inches on January 13th, the temperature of the mercury being 48° ; 30.54 inches on November 18th, the temperature of the mercury being 53° ; Least pressure—28.38 inches on February 22nd, the temperature of the mercury being 53°.

Greatest degree of Heat, indicated by the thermometer in the shade—87° on July 21st ; Minimum—25° on December 25th.

Greatest fall of Rain (during 24 hours)—1.35 inches on July 1st. Average yearly Rainfall at the Museum for the ten years 1905—1914 is 24.52 inches.

PERCENTAGE OF SUNSHINE AT THE MUSEUM, COMPARED WITH THAT RECORDED AT ADEL, ADEL BEING RECKONED AS 100.

1905...	87.2 per cent.	1910...	83.9 per cent.
1906...	87.5 ,,	1911...	84.5 ,,
1907...	83.2 ,,	1912...	84.1 ,,
1908...	80.6 ,,	1913...	87.1 ,,
1909...	78.7 ,,	1914...	91.3 ,,

The adopted Mean Temperature of the Air is the mean of the following four daily readings:—(*a.* and *b.*) Dry Bulb Thermometer read at 10 a.m. and 4 p.m. ; (*c.* and *d.*) Maximum and Minimum Thermometers, all the instruments in a screen.

The Hall is situate at 1° 32′ 45″ W., and 53° 47′ 51″ N.

The Bench Mark at the corner of the Philosophical Hall is 131.8 feet above sea level, and 10 inches above the pavement. The cistern of the barometer is 4.3 feet, the thermometers are 42 feet, and the rain-gauge is 45 feet above the Bench Mark.

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY.

Statement of Receipts and Payments for the year ending 30th April, 1915.

RECEIPTS.	£ s. d.	£ s. d.
To Annual Subscriptions, viz.:—		
,, New Proprietary Members	53 11 0	
,, New Ordinary Members	33 12 0	
,, Subscribers, of 21s....	60 18 0	
,, Subscribers, of 7s. 6d.	24 7 6	
,, Arrears	1 1 0	
		173 9 6
,, Fees for Hall	164 10 0	
,, Visitors' Fees	65 1 0	
,, School Children	65 12 5	
		295 3 5
,, Donation—Purchase of Flint Implements	7 17 6	
,, ,, ,, ,, New Boiler ...	1 0 0	
,, Sale of Shares	3 0 0	
,, Sale of Guides	4 14 1	
,, Sundries	9 1 0	
		25 12 7
,, Extension Lectures—		
Professor Garstang	0 13 6	
Municipal Enterprises	6 2 0	
		6 15 6
,, Midland Railway Dividend		46 8 11
,, Due to Treasurer, 30th April, 1915 ...		447 2 3
		£994 12 2

PAYMENTS.	£ s. d.	£ s. d.
By Balance due to Treasurer, 30th April, 1914	—	307 15 4
,, Repairs	13 4 10	
,, Taxes	32 1 8	
,, Rates	30 10 10	
,, Insurance	14 7 9	
		90 5 1
,, Coals	18 18 9	
,, Coke	14 17 4	
,, Electric Lighting...	11 9 11	
,, Gas	7 11 8	
,, Water	3 13 7	
,, Cleaning Hall	17 4 7	
,, ,, Porter's Apartments	5 4 0	
		78 19 10
,, Furniture and Fixtures		30 6 6
,, Salaries	273 17 6	
,, Collector	5 0 0	
,, Auditors	2 2 0	
		280 19 6
,, Library and Collections	44 9 6	
,, Subscription—Prehistoric Soc., East Anglia	9 0 0	
,, Postages	15 0 0	
,, Advertising and Printing	52 18 11	
,, Lectures	41 19 10	
,, Telephone	10 0 0	
,, Sundries	16 13 2	
		190 1 5
,, Commission and Interest		16 4 6
		£994 12 2

We have examined the Books and Vouchers of the Leeds Philosophical and Literary Society, and find the above to be a correct abstract of the same.

BEEVERS & ADGIE,
CHARTERED ACCOUNTANTS.

LEEDS, *June 24th, 1915.*

Capital Account.

£2,013 1s. 2d. Preference 2½ per cent. Midland Railway Stock.

LIST OF DONATIONS AND ADDITIONS

TO THE

SOCIETY'S MUSEUM AND LIBRARY.

1914-1915.

Donors marked thus † are Members of or Subscribers to the Society.

ZOOLOGY.

Nine glass cases, containing artistically displayed examples of Yorkshire freshwater fishes: Perch, Carp, Crucian Carp, Roach, Dace, Chubb, Tench, Bream, Barbel and Grayling See note page 10.	Mr. J. H. Royston Bazley, Holbeck.
Hairy Armadillo, *Dasypus villosus*, and Indris, *Indris brevicaudata*, in the flesh	Mr. Frank Somers, Chapeltown.
Glass case of Exotic Birds, many South American species, including humming, scissor and sugar birds, mannakins, &c.	Col. J. Walter Stead, Headingley.
Very fine example of a specimen of an Albatross, *Diomedea exulans*, caught in the South Pacific Ocean, and mounted with expanded wings ... See note page 10.	Mr. H. Heaton, Roundhay.
Mounted specimen of a white and black lamb	Mr. Geo. Parkin, Wakefield.
Newly-born specimen of a Kangaroo, from Camarvon, West Australia ...	Mr. A. S. Wood, Roundhay.
Two glazed cases containing mounted specimens of polecat, squirrel, gulls, puffins, pheasants, grouse, &c.	Miss Ann Joy, Burmantofts, Leeds.
Mounted specimen of an Otter, displayed artistically in a glazed case	Mr. H. Lawton, Harehills, Leeds.

A series of shells of land snails and a slug, *Arion*, sp. *Vitrina pellucida*, *Vitrea crystallina*, *Polita sydneyensis*, *P. nitidula*, *P. pura*, *Pyramidula rotundata*, *Helicella itala*, *Pomatias elegans*, *Hygromia hispida*, *Acanthinula aculeata*, *Vallonia costata*, *Helicigona lapicida*, *Helix nemoralis*, *H. hortenis*, *Cochlicopa lubrica*, *Pupilla muscorum*, *Clausilia laminata*, *C. bidentata*, *Carychium minimum*, found in the workings of Grime's Graves, Norfolk	Presented by several Members of the Council. See page 12.
A number of preserved skins of Australian birds :—White-tufted Honey-eater, White-headed Robin, Lambert's wren, Regent bird, Mock Regent bird, Diamond bird, Rosehill parakeet, &c.	Mrs. Legge, Headingley.
A series of shells of the British Marine Mollusca .... A selection of the young forms of Marine Mollusca from the Yorkshire Coast .... See note page 15.	Mrs. F. H. Woods, Bainton, Driffield.
Sicilian chick of hen	Mr. Arthur Clough, Otley.
Dotterel in the flesh, killed by striking telegraph wire at Rothwell	Mr. H. J. Martin, Rothwell.
Two book-shaped Cabinets containing microscopical slides of organisms dredged during the deep-sea explorations of the "Lightning," "Porcupine," and other ships..... See note page 13.	Mr. T. A. Carpenter, Ilkley.
Several heads of deer, wild boar, &c., mounted on shields ..... See note page 11.	Mrs. A. P. Longstaffe, Headingley.
Mole in the flesh	†Mrs. Eddison, Adel.
Sponges from the Indian Ocean :—*Caulospongia verticillata*, &c..... ...	Mrs. Moorhouse, Fulneck.
Cocoons of Chinese Shantung Silk-moth, *Antherea pernyi*	Mr. T. H. Watson, Withington.

Several specimens of Corals :—*Mussa*, *Pocillipora*, *Fungia*, *Madrepora*, &c. Shells of Marine Mollusca, *Rostellaria*, *Oliva*, *Solarium*, *Conus*, *Cypræa*, &c.	Mr. W. R. Plowes, Chapeltown.
Nests of Nightingale and of Golden Crested Wren, Epping Forest.....	Mr. Percy Heyward, Loughton, Essex.
Specimen of Cole-tit in the flesh.....	Mrs. D. Netherwood, Roundhay.
Diptera, *Hymenoptera* (*Vespa*), *Orthoptera* (*Blatta*), and other insects collected by the donor at Sukarinsk, Siberia	Mr. S. W. Cuttriss, Leeds.

GEOLOGY.

Fossils from the Oxford Clay, Whittlesea District, Peterborough :—Tooth of *Elephas*, Saurian bones, *Belemnites*	Mr. W. Hollins, Leeds.
Coal fossils :—*Neuropteris*, *Spirorbis*, from Notton, near Wakefield.....	†Mr. W. H. Bartholomew, Leeds.
Fossils from the Llanelly district of Wales. Trilobites :—*Oxygia buchi O. selwynii*, *Illaenus hughesi*, *Trinucleus concentricus*, *Placoparia Cambriensis*, *Calymene duplicata*, *Trinucleus fimbriatus*, *Ampyx nudus*, Graptolites : *Didymograptus murchisoni*, *Diplograptus bifidus*, *Climacograptus brevis*, *Leptograptus flaccidus*, *Dicellograptus morrissii*, &c.....	†The Lord Mayor of Leeds (Mr. J. E. Bedford.)
Fossils from the Yorkshire Coast :—*Nautilus striatus*, *Ammonites spinatus*, *A. gracilis*, *A. bifrons*, *A. capricornus*, and other examples .. .. Fossils from the Yorkshire Coalfield :—*Anthacomya Phillipsii* from Cadeby and Plant remains from East Harlsay ..... See note page 13.	†Mr. Edwin Hawkesworth, Cross Gates.

Silicified Wood, Texas.....	†Miss D. Netherwood, Roundhay.
Fossils from Yorkshire Coal Measures :—*Sphenophyllum majus*, *S. cuneifolium var. saxifragæfolium*, *S. trichomatosum*, *Lepidodendron Haidingeri*, *Dactylotheca plumosa* var. *dentata*, *L. Wortheni*, *Pecopteris plumosa* var. *delicatula*, &c.....	Mr. J. H. Rontree, Garforth.

MINERALOGY.

Fine crystal of Quartz. Hexagonal prism terminating in hexagonal pyramids.....	Mr. W. R. Plowes, Chapeltown.
Crystal of Quartz with large inclusions of liquid gas.....	Mr. W. E. Palmer, Harrogate.

BOTANY.

A collection of 600 specimens of pressed plants obtained in Britain, Italy and Switzerland by the late Rev. F. H. Woods, B.D.....	Mrs. F. H. Woods, Bainton Rectory, Driffield.
Cereals of Canadian Farms:—Alfalfa, Flax, and Grasses..... ..	The Canadian Government.
Seeds of Farm Grasses and Cereals...	Messrs. James Carter & Co., Raynes Park, London.
Seeds of Agricultural Plants..... Specimens of Grasses of the Farm...	Messrs. Webb & Sons, Stourbridge.
Glazed case of specimens of Farm Grasses and Grass Seeds.....	Messrs. Sutton & Sons, Reading.
Specimens of Australian Agricultural products	The Commonwealth of Australia.
Cereals and Seeds grown on Farms of the United States.....	The Department of Agriculture, U.S.A.
Botanical Products of various British Colonies	The Imperial Institute.

Botanical Products of Western Australia	Agent-General of West Australia.
Maize, millet, rice, &c., from Rhodesia	The British South African Company.
Sugar Cane and Sugars	Messrs. Farrie & Co., Liverpool.
Samples of Maize and Wattle bark...	Union of South Africa.
Seeds and the oils and Cattle food prepared from them..... See note page 14.	Messrs. J. Bibby & Son, Liverpool.

ETHNOLOGY.

English woven silk purse, star design, brass clasp, 19th Century.....	Miss Dunn, Ponsonby, Cumberland.
Woven silk purse, oriental pattern, with ornately designed silver clasp and ornaments, 19th Century	Mr. William Owen, Leeds.
A pair of aventurine bracelets of oriental design, 19th Century.....	
Hand sugar-nippers	Mrs. Thomas Chapman, Chapeltown.
A knife of three blades.....	
Household sugar-nippers on wood stand	†Mrs. S. Scott Stanley, Roundhay.
Japanese tea-caddy, used in South Russia	Mr. W. R. Plowes, Chapeltown.
Two pairs of steel candle snuffers...	
Cartridge belt used by the Boers during South African War	Mr. Alec Wormald, Headingley.
Electro-plated snuffer-tray with engraved design.....	Mr. Thomas Pickersgill, Leeds.
Old Keys	
Fragment of German shell from Scarbro' bombardment, 1914	Mr. A. B. Copley, Scarbro.'

Engraved horn drinking-cup, 18th Century	Miss A. Maud Maud, Stanningley.
English verge watch, German silver case, made by Benj. Kirkinwood, London, 19th Century.....	Mr. E. Mitchell, Harehills, Leeds.
English verge watch, German silver case, made by Gilbert Kidd, Malton	
Pair of wooden nutcrackers, 19th Century	†The Lord Mayor of Leeds (Mr. J. E. Bedford).
Caltrop.....	
Opium, Canadian, Indian and other smoking pipes	Mrs. Longstaffe, Headingley.
Shrapnel shells from Port Arthur, used during Russo-Japanese War	
Six hunting knives of English and foreign make	
Brass Chinese padlock and key.....	
Circular buffalo-hide shield of the Hamitic tribe, Inland Somali.....	Mr. P. Teasdale, Leeds.

ARCHÆOLOGY.

A series of 28 flint implements of Le Moustier Period from Combe Rock, Northfleet. Described in Archæologia, LXII., 515 ..... See note page 11.	The Associated Portland Cement Manufacturers, per the British Museum.
A series of 29 Palæolithic and Earliest Neolithic flint implements from Swanscombe and Ash, Kent ..... See note page 11.	From the bequest of Richard Jones, formerly of Welling, Kent, per the British Museum.
A series of 110 flint and bone implements from the French Cave deposits ..... See note page 11.	Sir Hercules Read, London.
Flint Core illustrating how flakes are struck off in the making of flint implements	†Lieut.-Col. E. Kitson Clark.

A series of 42 flint implements and 6 antlers of red deer used as picks by the flint miners in the workings at Grime's Graves, Weeting, Norfolk See note page 12.	†Presented by the following members of the Council of the Society:— Prof. P. F. Kendall. Mr. J. E. Bedford. Lieut.-Col. E. Kitson Clark. Rev. W. H. Draper. Dr. T. P. Teale. Mr. J. H. Wicksteed. Mr. Richard Wilson. Mr. E. Hawkesworth.
Three stone celts, probably native manufacture, Mount Sterling, Australia.....	†Rev. C. Hargrove, Harrogate.
Terra-cotta lamps from Egypt and from Carthage.....	Mr. W. R. Plowes, Chapeltown.
Fragments of pottery and painted stucco from excavations of Lectocetum, near Lichfield.....	†Mr. G. D. Lumb, Leeds.

NUMISMATICS.

York Token, 1669	†Mr. G. D. Lumb, Leeds.
Medals commemorating the Royal Visit to Hull, June 14th, 1914, in bronze, white metal and white metal gilt.....	Mr. William Owen, Leeds.
Medal of the Lord Mayor of Leeds, Mr. E. A. Brotherton.....	
Badge of Special Constable, Leeds, 1915	
Bronze Coronation Medal, George V.	Mr. Alec Wormald, Headingley.
Bronze Medal, by Wyon, of John Hunter..... See note page 10.	†Dr. T. P. Teale, Headingley.

ENGRAVINGS.

Framed coloured print of Kirkstall Abbey, by F. Vivares, 1769	†The Lord Mayor of Leeds (Mr. J. E. Bedford).
Framed Portrait of the Rev. Thomas Hincks, B.A., F.R.S.	Mrs. Oates, Castle Headingham. per Mr. Basil Lupton.

MISCELLANÆ.

Suit of Livery for the Attendant at the Museum	†Mr. R. H. Brown, Headingley.
Binocular microscope, by Crouch, two objectives, eye pieces, spot-lens, lamp and condenser ..... See note page 13.	Mr. T. A. Carpenter, Ilkley.
Fraudulent imitation in Lead of a heart-shaped mediæval reliquary... One of many similar frauds placed in and dredged from the Thames.	†The Lord Mayor of Leeds, (Mr. J. E. Bedford).
Wash-leather Purse in which Maunday money is given	†Mr. Matthew A. Brigg, Chapeltown.
Samples of Soil Fertilisers	Messrs. Lancelot Foster & Sons, York. Messrs. H. Richardson & Co., York. Messrs. T. Bibby & Son, Liverpool. Messrs. Geo. Hadfield & Co., Liverpool. Mr. W. E. Kenworthy, Leeds.

LIBRARY.

Revision of Ichneumonidæ, Pt. III., 1914 .....

Catalogue of Lepidoptera Phalænæ, Vol. XIII. .....

Catalogue of Ungulate Mammals, Vols. II. and III. ....

Catalogue Cretaceous Flora, Pt. I. ...

Monograph of Sabicea .....

Flora of Jamaica, Vol. III., Dicotyledons, Pt. I. .....

British Antarctic "Terra Nova" Expedition, 1910, Geology, Vol. I., No. 1, Zoology, Vol. II., No. 1, Fishes, Vol. 1, No. 1.....

The Falconer of God, by William Rose Benet.....	Yale University Library.
Essays on Milton, by Thompson.....	
The Mystery of Existence, by C. W. Armstrong	The Author.
The Life and Teaching of W. H. Gillespie, by James Urquhart	Mrs. Honeyman Gillespie.
Quarterly Journal of the Royal Meteorological Society.....	Mr. W. R. Plowes, Chapeltown.

PERIODICALS.

WEEKLY.

Nature	Purchased.

MONTHLY.

Annals and Magazine of Natural History.....	Purchased.
Geological Magazine	Purchased.
Monthly Notices of the Royal Astronomical Society.....	The Society.
Philosophical Magazine and Journal of Science.....	Purchased.
Journal of the Anthropological Institute	Purchased.

BI-MONTHLY.

Journal of the Royal Microscopical Society.....	The Society.

QUARTERLY.

Quarterly Journal of Microscopical Science.....	Purchased.
Quarterly Journal of Geological Society	The Society.

ANNUALLY AND OCCASIONALLY.

Philosophical Transactions.....	Purchased.
Proceedings of the Royal Society ...	The Society.
Proceedings of the Royal Institution of Great Britain	The Institution.
Publications of the Ray Society	Purchased.

British Association Report.....	The Association.
Greenwich Observations.....	The Astronomer-Royal.
Memoirs of the Royal Astronomical Society	The Society.
Radcliffe Astronomical and Meteorological Observations	Radcliffe Trustees.
British Rainfall.....	Purchased.
Monograph of the Palæontographical Society	Purchased.
Proceedings of the Yorkshire Geological Society	The Society.
Transactions of the Leeds Astronomical Society	The Society.
Transactions of the Leeds Geological Association	The Association.
Proceedings of the Liverpool Geological Society.....	The Society.
Journal of the Liverpool Geological Association	The Association.
Natural History Transactions of Northumberland, Durham, and Newcastle-upon-Tyne.....	The Tyneside Naturalists' Field Club.
Proceedings of the Birmingham Philosophical Society	The Society.
Annual Report of the Yorkshire Philosophical Society	The Society.
Transactions of the Leicester Literary and Philosophical Society	The Society.
Report of the Committee of Leicester Town Museum	The Museum.
Report of the Meteorological Department of the Borough of Southport.	The Meteorological Observer.
Annual Report of the Urban Sanitary Authority of the City of Leeds.....	Sanitary Department.
Annual Report of the Marine Biological Association of West Scotland	The Superintendent.

Report of the Bristol Museum	The Museum Committee.
Report of the Reading Museum	The Free Library and Museum Committee.
Proceedings of the Liverpool Literary and Philosophical Society	The Society.
Annual Report and Proceedings of the Liverpool Science Students' Association	The Association.
Memoirs and Proceedings of the Manchester Literary and Philosophical Society	The Society.
Reports of the Manchester Museum Handbooks do. do.	The Keeper.
Annual Report of the Sheffield Literary and Philosophical Society	The Society.
Annual Report of the Royal Cornwall Polytechnic Society.....	The Society.
Report of Associated Architectural Societies	The Association.
Proceedings of the Royal Society of Edinburgh ..... Transactions do. do.	The Society.
Transactions of the Edinburgh Geological Society.....	The Society.
Proceedings of the Glasgow Philosophical Society	The Society.
Scientific Proceedings of the Royal Dublin Society..... Scientific Transactions do.	The Society.
Transactions of the Royal Irish Academy ..... Proceedings do. do.	The Academy.
Journal of the Royal Geological Society of Ireland	The Society.

Annual Report and Proceedings of the Belfast Naturalists' Field Club	The Club.
Cape Meridian Observations ..... Report of H.M. Astronomer at the Cape of Good Hope to the Secretary of Admiralty	Cape Astronomer-Royal.
Report of Australasian Association for the Advancement of Science.....	The Association.
Journal and proceedings of the Royal Society of New South Wales	The Society.
Journal of the Royal Geographical Society of Australasia	The Society.
Wealth and progress of New South Wales	The Agent-General.
Records of the Geological Survey of New South Wales ..... Memoirs of the Geological Survey of New South Wales	The Surveyor.
Annual Report and Papers of the Department of Mines and Agriculture, New South Wales	The Department.
Records of the Australian Museum Report of the Trustees of the Australian Museum.....	The Trustees.
Proceedings of the Royal Society of Queensland	The Society.
Queensland Agricultural Journal	The Society.
Annals of the Queensland Museum...	The Trustees.
Transactions and Proceedings of the New Zealand Institute	The Institute.
Journal Royal Anthropological Society of Australia	The Society.
Papers and Proceedings of the Royal Society of Tasmania	The Society.

Proceedings and Transactions of the Royal Society of Canada	The Society.
Proceedings of the Canadian Institute Annual Report do. Transactions do.	The Institute
Proceedings and Transactions of the Nova Scotian Institute of Natural Science	The Institute.
Annual Report, Hamilton Public Library, Ontario, Canada	The Librarian.
Journal and Proceedings of the Hamilton Association	The Association.
Geological and Natural History Survey of Canada ..... Annual Report and Papers—do. ..... Contributions to Canadian Palæontology	Department of the Interior.
Bulletin of the Natural History Society of New Brunswick.....	The Society.
Publications of the Royal Swedish Academy of Sciences.....	The Academy.
Papers of the Royal University of Norway	The University.
Bulletin of the Geological Institution of the University of Upsala	The Institution.
Oversigt over det Kongelige Danske Videnskabernes Selskabs Forhandlinger.....	Royal Danish Society of Sciences.
Bulletin, Société Impériale, Moscow...	The Society.
"Leopoldina" Amtliches organ der Kaiserlichen, Leopoldino-Carolinischen Deutschen Akademie der Naturforscher	The Academy.
Mittheilungen der Kais. Königl. Geographischen Gesellschaft in Wien ...	The Society.
Memorias de la Sociedad Científica Mexico	The Society.

"Boletin Mensual" Observatorio Meteorologico-Magnetico Central de Mexico	The Editor.
Annuario del Observations Astrónomico Nacional Mexico	The Astronomer.
Boletin del Observatorio Astronómico Nacional de Tacubaya	The Observer.
Transactions of the American Philosophical Society ..... Proceedings do.	The Society, Philadelphia.
United States Geological Survey, Annual Report..... Contributions to American Ethnology. United States Geographical and Geological Survey	The Department, Washington, D.C.
United States Department of Agriculture, Publications of	The Department, Washington, D.C.
Report of the Smithsonian Institution Smithsonian Miscellaneous Collections Smithsonian Contributions ..... Annual Reports of the Bureau of Ethnology ..... Miscellaneous Publications of the Bureau of Ethnology	The Institution, Washington, D.C.
Proceedings of United States National Museum ..... Report do. do. Bulletins do. do.	The Museum, Washington.
Memoirs of the National Academy of Sciences U.S.A.	The Academy, Washington, D.C.
Transactions of the Academy of Science of St. Louis	The Academy.
Proceedings of the Academy of Natural Sciences of Philadelphia... Papers do. do.	The Academy.
Transactions of the Wagner Institute of Science, Philadelphia.....	The Institute.

Proceedings of the American Academy of Arts and Sciences.....	The Academy, Boston.
Transactions of the Botanical Society of America	The Society, St. Louis.
Botanical Society of America	The Society, Cornell University.
Transactions of the Wisconsin Academy of Sciences, Arts, and Letters	The Academy, Madison.
Bulletins of the Wisconsin Geological and Natural History Survey..	The Society.
Memoirs of the National Academy of Sciences, Washington.....	The Academy.
Bulletins of the Philosophical Society of Washington.....	The Society.
Proceedings of the Davenport Academy of Sciences	The Academy.
Transactions of the Wagner Free Institute of Science, Philadelphia ...	The Institute.
Annual Report, Transactions, and Miscellaneous Papers of the Historical and Scientific Society of Manitoba	The Society.
Proceedings of the Boston Society of Natural History, U.S.A.....	The Society.
Memoirs do.	
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